IDEM Office of Air Management

Fact Sheet

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Bicycle / Pedestrian Facilities

Description

Bicycle and pedestrian facilities include a wide array of potential program measures that offer a true alternative to the automobile. The most common bicycle facility elements include the following:

- Bicycle routes, lanes and paths designed for safe use.
- Bicycle network plan for an interconnected system of bicycle routes, lanes, paths and greenways.
- Lockers, stationary racks, storage facilities, bus racks and other facilities necessary for the bicycle to be used for journey to work trips.
- Work place showers and clothing lockers.
- Integration with transit for longer commuter trips.
- Ordinances for bicycle parking and related facilities.
- Education/awareness program.

Pedestrian facility program elements include the following:

- Sidewalks and walkways as part of the urban street system.
- Safe crosswalks where integrated with bicycle and automobile traffic.
- Transit connectivity.
- Education, awareness, marketing and promotion.

A shift of automobile trips to either bicycle or walk trips has a direct, positive impact on mobile source emissions, with auto emissions reductions up to 100 percent. A bicycle and pedestrian facility program is a low cost commute option that also offers health benefits. Comprehensive bicycle and pedestrian facility programs have been implemented in Seattle, Washington; Tucson, Arizona; and Madison, Wisconsin.

Bicycle and pedestrian facility programs are typically implemented by state and local transportation agencies and other local governments. Federal, state and local funding options are available to finance a bicycle and pedestrian facility program, including the federal Congestion Mitigation Air Quality (CMAQ) and Transportation Enhancement funding programs.

Emission Reduction*

Bicycle and pedestrian facility programs reduce volatile organic compounds (VOCs), nitrogen oxide (NOx) and carbon monoxide (CO) emissions. Bicycle and pedestrian facility programs can reduce mobile source VOC emissions by an estimated 0.1%.

Indiana Air Facts

Estimated Cost*

The average cost per daily round trip avoided through a bicycle and pedestrian facility program is estimated to be $10.60. The cost per ton of mobile source VOC emissions reduced is approximately $376,000.

Other Benefits and Considerations

In addition to emissions reductions, bicycle and pedestrian facility programs can offer the following benefits to commuters and the community:

- Reduced vehicle miles traveled (VMT) and congestion.
- Reduced fuel consumption and travel costs.
- Less reliance on the automobile for shorter trips.
- Fewer parking spaces and associated costs.
- Exercise, recreation, and enhanced health.

Another consideration associated with bicycle and pedestrian facilities is that there is a wide array of funding options available for related projects. Although the cost per ton of VOCs reduced seems high, bicycle and pedestrian facility projects can be implemented and achieve multiple benefits for considerably less than the cost per ton of VOCs identified. Related projects are typically not designed and implemented on a scale necessary to reduce VOCs in high volume.

Implementation Issues

Start up: Bicycle and pedestrian facility programs take several years to implement. To establish a comprehensive bicycle and pedestrian facility network, it can take up to ten years.

Missing links: In order for a bicycle and pedestrian facility program to be an effective measure, there needs to be a comprehensive network of facilities with few, if any missing links.

Travel time and distance: The use of bicycle and pedestrian facilities for longer commute trips does result in longer trip times. For long distance commute trips, bicycle and pedestrian facilities are not competitive with the automobile.

Transit connectivity: Accessible and convenient connectivity to transit from bicycle and pedestrian facilities is essential for longer commute trips, and maximizes emissions reduction benefits.

Climate: Bicycle and pedestrian facility users are exposed to weather elements and are unlikely to use the facilities on days that the weather is threatening. Facilities are typically underutilized in regions with long cool, hot, or wet seasons.

Topography: A bicycle and pedestrian facility program is most successful where the topography is relatively flat.

Comments

To learn more about transportation control measures, contact Scott Deloney at (800) 451-6027 press zero and ask for extension: 3-5684 or dial (317) 233-5684 direct.

**A. Costs and Effectiveness of Transportation Control Measures, National Association of Regional Councils, Apogee Research, Inc., 1994.*